

THE AMERICAN JOURNAL OF
OPHTHALMOLOGY.

VOL. XV.

AUGUST, 1898.

NO. 8.

ORIGINAL ARTICLES.

A NEW COMBINATION CHART. FOR THE EXAMINATION OF SCHOOL CHILDREN'S EYES AND EARS BY TEACHERS.¹

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PROFESSOR OF OPHTHALMOLOGY IN THE CHICAGO POLICLINIC, ETC.

AS AN ADJUNCT to my method for the systematic examination of school children's eyes by teachers, I have prepared a special compound test card, which I beg leave to submit to the profession.

It is based upon the standard types of Snellen, and is called "A Visual and Aural Chart for Schools." Roman numerals are on one side of each line and Arabic on the other. As, notwithstanding frequent instruction, and printed directions, I am frequently asked by teachers, "Which is the proper line to test at twenty feet?" I have had printed under the twenty-foot line, these words: "This line should be seen by a normal eye at (XX) feet," which would seem to make the matter sufficiently plain.

Under the last line, on the card proper, is a half broken line, at which point the lower portion of the compound card, should be severed from the upper portion. Just under this line are printed the words, "Please detach by breaking on this line."

The card which is thus detached contains the teachers'

¹Read before the Third Annual Meeting of the Western Ophthalmological and Oto-Laryngological Association, held at Chicago, Ill., April 7-8, 1898.

instructions as to how to proceed with the tests. The upper or long card, containing Snellen's types, is the testing card, and should be hung on the wall when in use.

Upon the lower card of instructions is printed the following matter, most of which is already familiar to those who have been used to this method. Some additions have, however, been made, as, for instance, the instruction not to expose the card except when in use, the advice not to examine first-grade children, the question as to the existence of strabismus, the questions for the development of ear diseases, with their frequent nose and throat obstructions, etc.

(Please detach by breaking on this line).

INSTRUCTIONS FOR THE EXAMINATION OF SCHOOL CHILDREN'S EYES AND EARS. FOR USE OF PRINCIPALS, TEACHERS, ETC.

After the method proposed by Dr. Frank Allport, of Chicago, Ill.

Do not expose the card except when in use, as familiarity with its face leads children to learn the letters "by heart."

First-grade children need not be examined.

The examination should be made privately and singly, in a room apart from the general school session.

Ascertain if the pupil habitually suffers from inflamed lids or eyes.

Children already wearing glasses should be tested with such glasses properly adjusted on the face.

Place a card of Snellen's Test Types on the wall in a good light; do not allow the face of the card to be covered with glass.

The line marked XX (20) should be seen at 20 feet, therefore place the pupil 20 feet from the card.

Each eye should be examined separately.

Hold a card over the eye while the other is being examined. Do

not press upon the covered eye, as the pressure might induce an incorrect examination.

Have the pupil begin at the top of the test-card and read aloud down as far as he can, first with one eye and then with the other.

If the pupil does not habitually suffer from inflamed lids or eyes, and can read a MAJORITY of the (XX) 20 test-type with each eye, and does not, upon inquiry, complain of HABITUALLY tired and painful eyes and headache after study, his eyes may be considered satisfactory. But if he habitually suffers from inflamed lids or eyes, or can not read a MAJORITY of the XX (20) test-type with BOTH eyes, or habitually complains of tired and painful eyes or headache after study, a card of information should be sent to the parent or guardian.

FACTS TO BE ASCERTAINED.

EYES.

1. Does the pupil habitually

suffer from inflamed lids or eyes?

2. Does the pupil fail to read a majority of the letters in the number XX (20) line of Snellen's Test Types, with either eye?

3. Do the eyes and head habitually grow weary and painful after study?

4. Is the pupil probably "cross-eyed?"

EARS.

5. Does the pupil complain of earache in either ear?

6. Does matter (pus) or a foul odor proceed from either ear?

7. Does the pupil fail to hear an ordinary voice at 20 feet in a quiet room?

8. Does the pupil fail to hear the tick of a good-sized watch at 3 feet with either ear in a quiet room?

9. Does the pupil fail to breathe properly through either nostril?

10. Is the pupil an habitual "mouth breather?"

If an affirmative answer is found to ANY of these propositions, the pupil should be given a card or letter of warning to be handed to the parent, which should read something like this:

DEAR SIR—

After due consideration, it is believed that your child has some Eye—Ear* disease, for which an Eye—Ear* Doctor of recognized standing should be consulted. If you feel unable to consult one at his office, a Dispensary will do the work free of charge.

It is earnestly requested that this matter be not neglected, as children with Eye—Ear* dis-

eases can not attain the best results in school.

Respectfully,

Principal.....School.

*Either the word "Eye" or "Ear" may here be crossed out, as may be appropriate for the case. If the pupil has presumably BOTH an Eye AND Ear disease, BOTH words may be left, and the space between the words "Eye" and "Ear" should be filled in with the word "and."

If school authorities desire to have these cards of warning printed (which of course facilitates the work), the names, addresses and office hours of the various free dispensaries may be printed upon the backs of the cards, if it is so desired. If this is done the names of ALL the reputable dispensaries in the city should of course be included. Teachers should not exert their influence in favor of any particular Eye or Ear Surgeon or Dispensary.

It will be observed that these cards are non-obligatory in their nature. They do not require anything of the parent, who is at perfect liberty to take notice of the warning card or not, as he sees fit. They simply warn the parent that a probable Eye and Ear disease exists, thus placing the responsibility upon the parent.

Principals and teachers are urged to impress upon pupils and parents the necessity for consulting reputable Eye and Ear Surgeons and not UNPROFESSIONAL TRADES-PEOPLE.

It will be noticed that the language is plain, and the instructions simple, in order that they may be easily comprehended by the laity into whose hands the cards will naturally fall.

The "facts to be ascertained" have been so worded that an affirmative answer to any of them will indicate that the pupil needs a warning card to take to the parent.

I have several purposes in view in producing this chart. My original method for conducting these tests was to have an oculist appointed by the board of education, who should superintend the tests, collect data, make reports, etc. The examinations were to be made by principals and teachers, and pupils found defective should have their names, conditions, etc., enrolled upon what is called the "Statistical Blanks," upon which, after due time, is to be written the result of treatment upon the eyes, health and general conduct of the pupil. These blanks are handed to the superintendent and board oculist who keep them on file and report on their findings to the board of education.

This is the plan I have advocated and still advocate, but boards of education are not always amenable to argument, and their objections take many forms. Some will not hear to the plan at all; some are willing to have an oculist instruct the principals as to the workings of the plan, but wish him to have no further connection with the schools; some adopt the plan, but will not ask the principals to perform the extra labor of making out the "Statistical Blanks;" some will not allow the names of the dispensaries printed on the backs of the warning cards, etc.

The combination card which I now propose harmonizes with most of the objections, and I think can be adopted under most circumstances.

Many teachers are interested in this work, and are constantly inquiring how they may do it in places where the board has taken no official action along these lines. They may simply purchase one of these combination cards for twenty-five cents, containing both the test-types and instructions, and proceed with the work in their own room. To this there can certainly be no objections, as the tests are absolutely harmless in every particular.

In case a board does not wish to burden its principals with statistical reports, but wishes the work done in other particulars, these cards may be purchased by the board, which will cover the entire expense, excepting the warding cards.

In the tests in the Chicago schools, which the Chicago Board of Education has requested me to superintend, the principals will not be called upon to render statistical reports, therefore my new combination card will be used. They will, however, be required to let me know how many children were examined, how many were found defective, how many they know to have been benefitted as a result of the tests, and what are their general ideas, as to the usefulness, etc., of the plan.

I do not in any sense depart from the original and more systematic plan, which I have so many times recommended, but in case the ideal method can not be used, this one will, I believe, render satisfactory service, as what we really wish to achieve is the benefit to the coming generation, and not the compilation of statistics.

The cards have been printed for me upon extra thick cardboard by Mr. Almer Coe, Optician, 65 State St., Chicago, Ill., from whom they may be obtained. I submit a picture of the chart.

THE USE OF SUPRARENAL CAPSULE EXTRACT IN MINOR EYE SURGERY.*

BY JOSEPH A. MULLEN, M.D., HOUSTON, TEXAS,

FELLOW OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

FOR the amelioration of pain and the prevention of bleeding in minor eye surgery, I desire to offer some observations of my own as well as others confirmatory of those reported by Dr. W. H. Bates¹ on "The Use of Extract of Suprarenal Capsule in the Eye."

The principle upon which its physiological action depends is the contractile power of the extract upon the arterioles—a vaso-constricting action—thereby retaining the absorbed cocaine and increasing its contractile and anæsthetic properties.

It reduces the extra-ocular tunics to a state of ischæmia, preventing hæmorrhage, and maintaining anæsthesia by keeping the cocaine locked within the tissues. Locally applied, it is never followed by any constitutional manifestations, when given hypodermatically it is, however, attended with dangerous symptoms. The face becomes livid and there is great pain in the chest and head. These untoward effects are unmistakably due to the action of the suprarenal extract upon the small arterioles.² It also decidedly increases blood pressure.³ According to Drs. J. J. Abel and A. C. Crawford,⁴ the

*Prepared for the Third Annual Meeting of the Western Ophthalmological and Oto-Laryngological Association, held at Chicago, Ill., April 7-8, 1898.

¹ New York Medical Journal, May 16, 1897.

² Op. Cit.

³ This fact, knowingly or unknowingly, has been clinically utilized by Mankowski (St. Petersburg Med. Woch., October 30), who recommends that a solution of the extract should always be on hand at chloroform narcosis. He chloroformed dogs until the circulation and respiration had ceased. Thirty seconds afterwards he injected a solution of the extract into the jugular vein, restoring them to life. (Jour. Amer. Med. Ass'n, February 5; 1898).

⁴ Johns Hopkins Hospital Bulletin, No. 76, July, 1897.

blood-pressure-raising constituent is an active sulphate, a pyridine base or alkaloid.

The preparation I used is from the supra-renal capsule of sheep and dispensed to the profession as a powder by Armour & Co. The solution is made by dissolving 5 grains in 1 drachm of cold saturated boric acid solution and filtered. Fresh solutions should be prepared for each operation. It keeps very poorly and soon becomes foul smelling. Locally, its action is purely one of contraction; it enhances and prolongs the contractile effect of cocaine, after which solution it is always used. The solution is not at all irritating, but rather imparts a cooling sensation to the conjunctival membrane. A solution of cocaine, 5 per cent. in strength, is instilled into the eye and allowed to remain for ten minutes, after which the solution of suprarenal capsule is put in also and in fifteen minutes the surface is ready for operation, *i. e.*, when complete ischæmia has taken place. As is well known, cocaine produces on mucous surfaces a contraction of the capillaries, while the extract of suprarenal capsule increases this action to such an extent that when the tissues are incised no hæmorrhage occurs, while without the extract, bleeding takes place and the anæsthetic effect of cocaine passes away with the flow of blood. The action of the suprarenal capsule on the arterioles is further supplemented by contraction of the conjunctival connective tissue pulling the membrane down upon the sclerotic preventing, even if the hæmorrhage be slight, the extravasation of blood beneath the conjunctiva.

These physiological effects materially increase the clinical usefulness of the extract. It bleaches the vessels in the pterygium and conjunctiva making the line of demarkation between the two quite distinct, isolating the former so its removal is readily accomplished. It, however, does not immobilize the tissues so that the suturing becomes difficult. It also greatly lessens secondary swelling, and in some unknown manner kindly induces more rapid healing, so that the sutures may be taken out earlier and the parts returned to their normal position.⁵

⁵See article by author, "The Clinical Observation on the Use of the Aqueous Extract of Suprarenal Capsule in Operations Within the Nasal Chambers." (*International Clinics*, January, 1898).

When using the extract for tenotomies proceed the same way as in removing the pterygium until the capsule of Tenon is reached, then instill more cocaine solution, after which the suprarenal capsule is used as before. In this way repeated testing of the muscle can be made until sufficient has been cut for purpose indicated. When proceeding in this manner the ease to the operator and comfort to the patient with which the tenotomy is attended is surprising, and especially is it advantageous as there is very little hæmorrhage or pain.

The swelling after excision of pterygia and tenotomies seems to be milder than when cocaine alone is used, especially when cracked ice is applied to the parts after the operation. When operating on the drainage apparatus of the eye, cocaine solution is first instilled into the conjunctival sac and then a small quantity of the same is injected into the lachrymal sac and nasal duct. This is followed by a similar instillation and injection of the extract. Fifteen minutes afterwards, the canaliculus can be opened and the stricture of the nasal duct incised. The operation is almost bloodless and painless. A decided improvement over the use of cocaine alone. Its advantages over the use of cocaine alone are—first, to increase the anæsthesia of cocaine; second, it, with cocaine, produces ischæmia of the mucous tissues; third, in some kind way it modifies post-operative swelling; fourth, it materially enhances rapid healing of the parts. I have never seen any evidences of cocaine toxæmia when the extract had been used.⁶

These advantages are quite valuable and should entitle the suprarenal capsule to a place on our list of established medicinal substances for use in the eye.

The astringent action lasts from one hour to an hour and a half, and is followed by no injurious effects to the cornea, etc. The extract does not cause dilatation or contraction of the pupil, and is devoid of any action on accommodation, and I believe, as Dr. Bates does, that within the limits of its sphere of activity, there is absolutely no other substance which can take its place in minor operative procedures on the eye and its appendages.

⁶Op. Cit.

A CASE OF HYPEROPIC ASTIGMATISM CHANG- ING TO MIXED ASTIGMATISM AFTER TENOTOMY OF THE INTERNAL RECTI MUSCLES.

BY J. ELLIS JENNINGS, M.D., ST. LOUIS, MO.,

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ST. LOUIS MULLANPHY HOSPITAL.

MISS H. G., consulted me October 17, 1897, in regard to a slight periodic internal squint, which her friends said was more pronounced at night. Six years ago she had purchased a pair of glasses from an optician, but had only used them for close work.

O. D. V., $\frac{5}{VI}$ — with + 1.00 D. cyl. ax. $120^\circ = \frac{5}{IV}$.

O. S. V., $\frac{5}{V}$ — with + 1.00 D. cyl. ax. $60^\circ = \frac{5}{IV}$.

Muscle Balance.—No hyperphoria. Esophoria 8° . Abduction 5° . Adduction 35° . Exercise of the muscles with prisms for a few days brought abduction up to 14° , and adduction to 50° .

Refraction.—The refraction was carefully estimated under homatropine with following result:

Retinoscopy: O. D. $\begin{array}{|c|} \hline +2.50 \\ \hline +1.50 \\ \hline \end{array}$ O. S. $\begin{array}{|c|} \hline +2.50 \\ \hline +1.50 \\ \hline \end{array}$

O. D. + 1.00 D. sph. \bigcirc + 1.00 D. cyl. ax. $120^\circ = \frac{5}{IV}$.

O. S. + 1.00 D. sph. \bigcirc + 1.00 D. cyl. ax. $60^\circ = \frac{5}{IV}$.

After the eyes had recovered from the influence of the mydriatic, vision still remained $\frac{5}{IV}$ with the above correction, so it was ordered for constant use and the patient instructed to report in six months.

May 20, 1898. Patient has worn her glasses constantly with great satisfaction, and a test shows vision of $\frac{5}{IV}$ with each eye. The muscle balance is unchanged, *i. e.*, 8° of esophoria.

May 22. At the earnest solicitation of the patient, I consented to do a partial tenotomy of the left internal rectus muscle; but after clipping for some time, with little result, I finally divided the entire tendon and surrounding attachments. The

operation still left 2° of esophoria which, in a few days, had increased to 6°. I now decided to make a partial tenotomy of the right internal rectus, but was forced, before any effect was apparent, to completely divide the tendon. This complete division resulted in an exophoria of 10°, which was reduced to 3° by stitching the tendon to a point near its former position. When the stitch was removed a few days later the exophoria had entirely disappeared and muscle balance was perfect. While the operation was satisfactory from a cosmetic standpoint it resulted in a most extraordinary and unaccountable change in the refractive condition of the eyes. Even before I had quite finished the tenotomies the patient complained of poor vision and that she could not wear her glasses any more, but I did not pay very much attention to her statements. But about a week later she again mentioned the matter and on testing found vision $\frac{5}{xx}$ with glasses. The refraction was carefully estimated under homatropine and was as follows:

Retinoscopy: O. D. $\begin{array}{|c|} \hline +2 \\ \hline -1 \\ \hline \end{array}$ O. S. $\begin{array}{|c|} \hline +2.50 \\ \hline +0.25 \\ \hline \end{array}$

O. D. — 1.50 D. sph. \bigcirc + 2.50 D. cyl. ax. 105° = $\frac{5}{IV}$.
O. S. — 0.50 D. sph. \bigcirc + 2.50 D. cyl. ax. 75° = $\frac{5}{IV}$.

Whether the change in one meridian from hypermetropia to myopia immediately after the operation was due to a bulging from the altered position of the lateral muscles or whether the rays of light passed through an area of the cornea which differed in refraction from the first area, is an open question.

ERRATUM.

On page 171 of the June number, second paragraph, sixth line, read *Holden* for *Weeks*.

SOCIETY PROCEEDINGS.

THIRD ANNUAL MEETING OF THE WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYN- GOLOGICAL AND RHINOLOGICAL ASSOCIATION.

Discussion on paper read by DR A. C. CORR, of Carlinville, Ill., entitled "*Choroiditis and Choroido-Retinitis in Young Persons*," (concluded from July number).

DR. J. P. WORREL (Terre Haute, Ind.).—The importance of the choroidal and retinal troubles in school children, who use their eyes a great deal, can not be overestimated. The frequency with which changes take place in the retina becomes obvious. Everyone who has been called upon to study the eyes of children for statistical purposes, and the frequency with which choroidal and retinal changes are found, has been impressed with the importance of the subject. You are doubtless familiar with the results of Dr. Risley's investigations in school children in Philadelphia, which were made with a view of ascertaining what relation there was between myopia and these changes in the eyeground. Some recent investigations of my own have substantiated his statements, and in more than 50 per cent. of the cases of hypermetropia and astigmatism we find some evidences of retinal and choroidal changes, and around the optic disc. In many of them, however, we will find a low degree of vision, and when we come to search for the objective changes, we can not always find them. Perhaps there is a spotted or granular appearance of the retina, but even this may be absent. Absolute correction of the refraction, putting the eyes under atropia, the use of alteratives, and rest for the eyes constitute the line of treatment.

DR. J. E. COLBURN (Chicago) —I have now under observation a young girl whom I have known for fifteen years. I first saw her when she was a child, 3 years of age, and again

at the age of 13, at which time I refracted her eyes, giving her $\frac{20}{xx}$ vision. She had eye-fatigue and an error of refraction, 1 D. of hypermetropia. I gave her correcting glasses. She entered into a boarding-school. She did not wear the glasses, and soon she was complaining of her eyes and very much lowered in general tone. I found that all of the functional activities of the different organs were being interfered with. It was not until I increased the renal activity that I had any result so far as the eyes and general improvement were concerned. But just as soon as I succeeded in improving the general nutrition and tone of the patient, her vision came up to and is now $\frac{20}{xxx}$.

DR. A. C. CORR.—There seems to be a large per cent. of similar cases, so far as my observation goes, and so far as I can gather from the literature of the subject, in which the cause is not accounted for. I have given my view of the cause of this disease as originating in the functional activity of the eye itself. There seems to be an inborn condition or weakness of the ocular tissues that makes the eyes of one child less resistant than those of another. One child is tough and robust, the other is frail, and this condition of the eyes exists without there being a gouty, rheumatic, or syphilitic history. I believe excessive functional activity of the eye is a means of accounting for the trouble I have described, and I do not find in our text books illustrations of this condition of the retina and choroid, as I have seen it. I have never seen illustrations of such patches, the retina and choroid exhibiting a peculiar wool-colored or plush-like appearance, as I saw it in the case I have described. The treatment I have advised and carried out is to have these patients absolutely refrain from active use of the eyes. If this can not be done, it may be necessary to paralyze the ciliary muscle with atropia, and prescribe correction at the same time for the near work, so that the eye can not be used for accommodation, and have a prism added so as to render it unnecessary for the eye to converge. I endeavor to put the eye in such a condition that it can be used without strain. In this way we relieve the tension of the circulation by the paralysis of the accommodation and these young patients to go on comfortably with their exercises.

Discussion on paper read by DR. H. V. WUERDEMANN, of Milwaukee, Wis., entitled "*Case of Angio-Sarcoma of the Orbit, With Metastases in the Skull, Etc*" (Paper not received).

DR. A. ALT (St. Louis).—I am somewhat astonished to find that the Doctor does not consider the orbital tumor the primary one. Usually in these cases the orbital tumor is the first, and the others are metastatic tumors. As in the Doctor's case there were no physical signs of disease of the abdominal organs when he first saw this patient with orbital tumor, the original seat of the tumor can not have been in the abdominal cavity.

I suppose everyone who has had opportunity to see such cases of orbital sarcoma knows that it is almost useless to operate, unless by evisceration of the whole orbital contents. Only, if we are able to remove all of the diseased tissue in this manner, is there a chance of success. I have taken occasion to report two cases similar in nature, in which I operated on a primary tumor in the orbit. In the one case I thought I had been able to remove all of the diseased tissue, and yet within three months after operative interference, the patient was brought back to me with such a large tumor that I refused to operate again. The patient then went from my hands into those of a Christian science healer in St. Louis, and I have been informed that a short time thereafter metastasis occurred in the abdominal organs and the patient died. So far as my acquaintance and knowledge with these cases go, the primary seat of the tumor is usually in the orbital tissue, and the tumors which develop in the abdominal cavity are secondary tumors from metastasis.

DR. WUERDEMANN.—This case is probably unique, because of an angio-sarcoma appearing in a very young child, and also that it appeared in the connective tissue back of the kidney, rather than in the connective tissue elsewhere in the body.

I have had another case of small round-cell sarcoma, non-pigmented, in which the eye was enucleated for inflammation with no other diagnosis having been made. The patient, a lady, aged 51 years, was brought to me later with a tumor having developed in the orbit about the size of an eyeball. Total exenteration of the orbit was done, and at the time there was no involvement of the glands, the liver or any other part of

the body. The optic nerve was divided close to the commissure, and it cut like celery.

At the microscopical examination cells were found infiltrating and involving the optic nerve. Recurrence did not occur in this case for two and one-half years. The disease, however, finally recurred in the liver, and tumor cells were found in practically all the tissues of the body. Recurrence also took place in the orbit, close by the tear duct. The patient finally died of inanition. The cause of death in the case of the child was meningitis.

EVENING SESSION, FRIDAY, APRIL 8, 1898.

PRESENTATION OF CASES, MICROSCOPICAL AND PATHOLOGICAL SPECIMENS, AND NEW INSTRUMENTS.

ADENOMA.

DR. A. ALT (St. Louis).—I have here under the microscope a tumor concerning only one ciliary process, accidentally found in the eye of a patient who died from pneumonia. Strange to say, I found the same kind of tumor also in the other eye of this individual, also confined to one single ciliary process. The nature of the tumor I am not sure about, as yet. It looks, at a superficial glance, as though it is an adenomatous tumor, but when examining it with higher power, we find a number of spindle cells arranged in double rows, and between them a gelatinous substance something like the tissue of the umbilicus. I have also thought of their being gummata. Yet I doubt it, because there is no small cell infiltration around them, and perhaps it is a congenital tumor. Whatever I may find these tumors to be, they are extremely interesting to me, as I have never seen anything like them before, nor read of it.

TRACHOMA CELLS.

Under this microscope you see a trachoma specimen and will readily notice a number of large cells containing the bodies I consider to be parasitic and which may represent the organisms which cause this disease. The power is small, but still you can plainly see them, as I depicted them to you yesterday in my paper.

LAMELLAR CATARACT.

Under this microscope I have put the nucleus of a lamellar cataract. This case had been under my observation for about ten years, when the patient began to get so blind that she could no longer see to pour milk into her cup, although she could see sufficiently to get about with comfort. I extracted this lens with excellent result, as the patient's high-grade myopia rendered the wearing of a glass unnecessary.

RETRO-OCULAR ABSCESS.

DR. CASEY A. WOOD (Chicago).—The first case I present to you this evening has no features that are extremely unusual, and yet I present him as a problem, in order that I may get some advice as to further procedures. The first symptom which this patient manifested was that of unilateral neuralgia, apparently supra-orbital, which was very severe, lasting for many months. Patient was treated by different methods without any beneficial result. A short time before I saw him an abscess had formed immediately above the eye, and broken through in the situation which you see. You will notice here a fistulous opening. Following the breaking of the abscess he got some relief from the supra-orbital neuralgia. In examining the case carefully I found he had a nasal obstruction situated in the middle turbinal bone, which had been operated upon quite recently, and although this gave him some relief so far as the nasal symptoms were concerned, it has no special bearing upon the lesion under consideration. I made up my mind, from the fact that there was pain subsequent to the formation of the abscess beneath the supra-orbital region, the abscess bursting and giving relief to the symptoms, that I had to deal with empyema of the frontal sinus. Before I had seen him this sinus and the abscess behind had been treated by all sorts of solutions and powders, without avail. In this case I did, in a surgical way, what is recommended—namely, made an incision in the central line toward the crest of the nose, extending two inches, and at right angles to the brow. I peeled off the periosteum, and with a large trephine I entered the frontal sinus. Some pus flowed out, and I found a great deal of granulation tissue in the frontal sinus. This opening was kept open as long as it would remain so, and packed frequently with iodoform

gauze. In spite of all efforts, however, the opening finally healed very kindly. I may have to make a further opening if there be any further trouble with the frontal sinus.

Another case of retro-ocular abscess is now before us. In view of the fact that this patient has only one eye, I am a little tardy in doing certain things that I would feel like doing if he had two good eyes. I passed a large aneurysm needle through the sinus, deep behind the eye, and brought it out a little over half an inch towards the nose, made a counter-puncture, and inserted a large drainage tube. This was retained in place as long as possible, but healing apparently took place from the bottom, and we finally took out the drainage tube. The patient has still a little discharge from the opening, but not very much. His symptoms are entirely relieved, but still this leaking keeps up. It is not reasonable to expect that we should have in this case complete closure inside of three or four months.

It occurred to me that these cases would be interesting to you, and I should like to have some suggestions from any gentleman who has had any experience with such cases. In my opinion, there is no bony growth partially filling up the orbit on the inside.

MYOPIA.

Removal of the lens for high degree of myopia is not as common an operation in this country as it doubtless will be, and it is not as common as it is in Germany. I present to you this evening a case showing probably the first operation that was done in this country, so far as I know, for excessive myopia. I am pleased to present it, because it has been successful, the operation having been done some eight or nine years ago. I did some things then which, if I had to do it over again, I would, perhaps, be able to improve upon. This case was referred to in the discussion of Dr. Harlan's paper before the American Medical Association some years ago. The case was as follows: March 2, 1891, A. M., seamstress, aged 17 years. Has been myopic for eight years; is lately getting much worse. Could not go to school, and is now unable to do any sort of work. If she attempts to sew, her eyes ache and feel as if they were bulging out of her head. Glasses make objects brighter, but do not otherwise help. V., R. E., fingers at seven feet, with $-14\text{ D. }^{20}/_c$; V., L. E., fingers at eight feet, with -15 D.

$\frac{20}{LXX}$. There are sharp temporal crescents of about $\frac{1}{2}$ d. d. in both eyes. No choroiditis, although the choroidal vessels can be readily seen over the whole background. Macular regions show as cherry-red spots. March 3, needled the right lens—a small central opening. Used atropine and hot water to relieve subsequent pain. In a week, tension with pericorneal injection and pain. Made a corneal opening and removed most of the lens. Did two subsequent needlings. August 5, V., R. E., $\frac{20}{C}$. The pupil is irregular and attached to pupillary membrane. In December, needled left lens without mishap. The lens absorbed nicely, V., L. E., $\frac{20}{C}$. Did not order lenses for right eye, although with the correction on left side patient was able to read and do other near work and eyes were comfortable. I did not see her again until March of this year, when the following condition was observed: R. E., secondary cataract, fingers at 5'. Left membrane needled. Two weeks later, did a DeWecker's capsule scissors operation, after which patient obtained $\frac{20}{L}$ vision and could read J. 2 and do near work without trouble.

The improvement in this case has gone on, until now she has no trouble whatever with her eyes. She has no headaches or pains.

In connection with this case I wish to show another, which is a rather odd one, and I prefer to present it at this time. Here we have a case of monocular myopia of 13 D. The left eye is practically normal, but in the right eye we have a high degree of myopia. What are we going to do in such a case as this? Glasses have not been of any use at all. Partial corrections have been made and still she is practically unable to see.

No relief followed the wearing of glasses, there is no relief from non-operative interference. The fundus is practically normal, and there are no choroidal changes to speak of. The elongated axis on the right side can be seen very easily as the patient looks to the right. In operating on this patient all precautions were taken. You will see the central opening where I did the first needling. One should be very careful about first needling. I had trouble in the first case by excessive needling in that one-half of the lens came forward into the anterior chamber. This needling was done last Saturday, and there have been little shreds of the lens hanging forth in the anterior chamber. There has been very little reaction.

ANTERIOR SYNECHIA.

Anterior synechiæ, which form from penetrating wounds of the cornea, and other causes, are, as a rule, in this country left alone. They are not treated. I do not think this is a desirable thing to do in a certain class of cases, where it is possible to interfere successfully and easily, and I have brought this patient here this evening to show my usual procedure in such cases. In cases in which there is a space between the anterior synechia and the margin of the cornea in the anterior chamber, I have for a number of years been in the habit of cutting the synechia close to the cornea by means of Lang's knives. These are two knives, one a blunt-pointed bistoury, and the other a sharp-pointed bistoury. The sharp-pointed bistoury is entered very much as the Graefe knife, and when withdrawn no aqueous is lost. This instrument can be used very skillfully after a little practice. Through the opening in the cornea, the blunt-pointed bistoury is brought into the anterior chamber, passed around the synechia, and it then is quite an easy matter to cut it off. The operation is simple, and because of its simplicity, I do not think anterior synechiæ ought to be left alone. In this case the penetrating wound of the cornea tore a portion of the iris, so that there was an opening through the mass of the iris itself, and quite a large portion of the torn piece presented through the cornea. Having dealt with the case in the manner described, no reaction whatever followed, and the present state of the case is certainly much better than if I had left the anterior synechia untouched. When the traumatic cataract is absorbed, as it is being absorbed, he will have a pretty fair eye, without danger from infection and pulling on the iris.

OPERATION FOR PARTIAL ADVANCEMENT.

I wish to present a new operation for partial advancement. It is so simple and effective that I do not hesitate to say that one may do it and allow the patient to go about his or her ordinary occupation. It is really not entirely original, because my friend, Dr. Beard, did the same thing some time ago; but the technique is the important thing in the simpler operations with one stitch, and I present this patient as showing the results after the operation, which was done four weeks ago. The operation was done on the external rectus. The patient had

marked esotropia, and I passed the needle through the insertion as near to the cornea as I could get, paying no attention to the conjunctiva. Indeed, I do not think the conjunctiva should receive any attention, and in cases of this kind we can assume that it does not exist. I passed a thread in here (illustrating), using a strong suture of black silk, and proceeded to push it in through the conjunctiva below, and then worked it in and out so as to make a purse-string operation, and in tying drawing the tendon and conjunctiva and everything together. In this case there was no section of the tendon. Four weeks ago the eye presented a bad appearance after having had this done, but at present you will notice that the result is excellent, the swelling having all disappeared.

DISCUSSION.

DR. C. D. WESCOTT.—I would like to ask Dr. Wood whether he has ever been able to use these little knives in cases where there was complete occlusion of the pupil.

DR. WOOD.—I never have. I have seen Lang do it, and it can be done.

DR. W. F. COLEMAN.—I would like to ask Dr. Wood how much esotropia there was in his case.

DR. WOOD.—I can not say. I do not think it is a relevant question. The whole thing is entirely an empirical procedure on my part.

DR. COLEMAN.—How much esotropia would you expect to correct?

DR. WOOD.—I would do the operation in almost all cases where you would not do section and advancement at the same time, where you possibly hope to get some results from advancement alone.

DR. A. ALT.—How long do you leave the suture in?

DR. WOOD.—In this particular case I left the suture in ten days.

DR. J. E. COLBURN.—Some years ago, at the Cincinnati meeting of the American Medical Association, I reported an operation similar to this, and devised a double hook for raising the muscle, being sure that I had the muscle in grasp while I was making the operation, as the Doctor has done. I think I have the hook in my museum. I have made a few such operations, and have obtained good results, but the reaction was so

great in some of the cases, and the recovery so slow, that I made up my mind that advancement with section was the preferable procedure, and I never went further than to call attention to the operation at that time.

DR. J. O. STILLSON (Indianapolis, Ind.).—I saw Dr. Jackson make an operation, similar to the one described, last fall in Philadelphia, the case having been presented to the Philadelphia Medical Society. I should like to give briefly Dr. Jackson's idea about the technique of needling. Dr. Jackson passes the needle not far from the pupil into the cornea, instead of in the periphery of the cornea, which allows the aqueous to escape. This, in turn, allows the lens to come forward, and he uses the cornea as a fulcrum, and without enlarging the opening in the capsule, he makes extensive trituration of the lens inside the opening which he has made in the capsule, and which he intends to leave small. After tritulating the lens well he withdraws the needle, and in this way he gets more rapid absorption without the risk of allowing the soft lenticular substance to come out into the anterior chamber. The aqueous is secreted very soon, and the anterior chamber is re-established, so that he does not get, as he claims, any great amount of irritation or reaction. The results of this and other operations were very gratifying.

DR. CHARLES H. BEARD (Chicago).—I would like to ask Dr. Wood his method of needling. The method I have pursued of late years has been always with a small Graefe knife, not with a needle, entered near the sclero-corneal junction. In making our first needling, Dr. Wood is quite right in saying that we should not attempt to do too much, merely prick the anterior capsule. The Graefe knife is of great advantage over the needle, from the fact that we can make a slanting incision, barely lifting up the capsule with the point of the knife, and quickly withdrawing it. Afterwards, when it comes to another needling, we can enter more boldly, and insert the knife deeply into the lens substance. Certainly the old method of needling by means of Bowman's needle plunged through the cornea, is a very dangerous procedure. I would do this operation with more fear and trembling than to make a cataract extraction. I have seen serious results from needling by Bowman's needle, because by so doing little shreds of the capsule are easily drawn out into the small opening made by the needle, which serve as

foci of infection. Whereas, an incision made near the periphery of the cornea with the Graefe knife will heal immediately, and there is no risk of drawing shreds into it.

DR. DAVID W. STEVENSON (Richmond, Ind.).—I have done about a dozen of these needling operations for myopia. I remember doing the operation on a patient in China. The man absolutely stumbled over everything, and he had about 18 D. M. After the operation he became a useful man. I did not have any bad results from any of the operations I have done. A large number of Chinese people are short-sighted because their print is so bad, and oculists who wish to do this operation can have many opportunities of doing it in China. I think the operation is really one that can be done safely by a skillful surgeon in Chicago as well as in China, and I have no doubt there are cases here suitable for the operation. Frequently, I use a suction apparatus or a common, ordinary small tube to hasten the matter somewhat, and thus with the tube suck out a large part of the lens after needling.

DR. A. ALT (St Louis).—I have also performed a larger number of these myopia operations, and then taken occasion to place one or two cases on record. In one case I operated on both eyes in a man who was utterly unable to do any near work even with correcting glasses. He had myopia and myopic astigmatism, and dislocation of the lenses downward. The first eye I operated upon turned out beautifully, so that the man had normal vision, and his astigmatism disappeared after the operation and he read with a +2.75 D. With this comparatively light spherical lens he could do all near work. He had previously been unable to go to school on account of the condition of his eyes, and he had no education to speak of, but was eager to get one. With this one eye vision was so good that he went to a business school and has been carrying on his business for four years. About nine months after the first operation, he came back and asked me to operate on the other eye which, however was lost from detachment of the retina.

DR. E. A. KEGLEY (Cedar Rapids, Iowa).—A young man, aged 23 years, came to me wearing a 16 D. myopic glass. He had been trimming Osage orange, and had been injured in the eyes by one of the thorns, with the lens becoming opaque. I needled it three times, and within six months he began to pursue his studies in college without the use of any glasses.

DR. WOOD.—I quite agree with the remarks of the various gentlemen regarding needling, as I do not think it is such a simple operation as it is usually considered to be. It is considered simple until some one gets a serious reaction from it. I prefer to use a needle in this operation, which closely resembles a small Graefe knife. It is very important in this operation not to trifle too much with the lens, and the lesson which I received in my first case is one that I have never forgotten. The first needling should be done in a quiet sort of way, with a sharp knife or a sharp needle.

A CASE OF OPTIC ATROPHY FOLLOWING INJURY MUCH IMPROVED.

DR. W. F. COLEMAN (Chicago).—Mr. B, aged 61 years, was struck by a piece of scantling, 45 pounds in weight, on the forehead in August, 1896, rendering him unconscious for ten minutes. He resumed work in a week, but felt a sense of intoxication in his head. Two weeks later, he fell from a wagon and struck the back of his head, but was not rendered unconscious. He is the father of thirteen children, ten of whom are living. His wife had one miscarriage from overlifting.

He gives no history of syphilis or other disease; has had no cerebral or spinal symptoms. Smokes three pipesful of tobacco a day since 18 years old; takes one glass of liquor a day.

The field of vision, taken four months after treatment began, showed concentric contraction for each eye of 10° in the whole field. Color vision: The right eye confuses purple with grey and grey with blue; the left eye confuses purple and green with grey and grey with blue.

Before treatment, vision, R. E.=fingers at 12 feet slowly; L. E.=same. Fundi showed advanced optic atrophy on the temporal side of both discs. The choroidal pigment was thinned on the temporal side of each disc. The retinal vessels appeared normal.

He was treated for three months at the Illinois Eye and Ear Infirmary with strychnine injections and internal medication, but vision continued to fail. The diagnosis, as told the patient, was optic atrophy. Prognosis unfavorable. For a month previously was treated at the Hahnemann Hospital. Diagnosis and prognosis the same.

The patient had been treated at my clinic at the Post-Graduate Hospital by my assistant, Dr. Pattillo. Galvanism has been used for five minutes daily, the cathode to the closed lids of each eye, and the anode to the nape of the neck with a current of 5 m. a.

After four months treatment, vision, each eye= $\frac{6}{xviii}$, with +4.50° each eye Sn. .05 at 1 to 14 inches. Fundi, the discs show much more color than at the first examination.

DISCUSSION.

DR. YOUNG (Burlington, Iowa).—I think it would be well for the members of the Association to examine the eyes of Dr. Coleman's patient. Personally, I fail to see on what basis a diagnosis of optic atrophy has been made, inasmuch as there is no appreciable diminution in the caliber of the blood vessels, and I do not see any cupping. Furthermore, the field does not indicate any atrophic condition.

BILATERAL ABDUCENS PARALYSIS.

DR. WM. A. FISHER (Chicago).—I present this case of bilateral paralysis, not as a common one, but as one of most infrequent occurrence. Here we have not only paralysis of both abducens, but as much contraction as is possible, not only of the muscles that turn the eye inward, but of all the ocular tissues toward the nasal side. I would hesitate to present to this Association an ordinary case of unilateral abducens paralysis, for you all know how frequently they occur. In fact, I am rarely without such a case. At the present time I have three cases in my clinics, all giving a specific history. This case shows what a great deformity can follow a paralysis of this kind.

The history of this case is as follows: Mrs. B., aged 50 years, married thirty years; has had five children, three living and in good health; one died of measles and one of croup. Father died at the age of 70, mother died at the age of 75.

She had three brothers, one died in the army in India; has not heard from the other two for ten years, when they were in good health. Six sisters, two died in infancy, others in perfect health.

Thirty-seven years ago, or when she was 13 years of age, her left eye began to turn in. Previous to that time she was

not aware of having any eye trouble. She consulted a physician in Ireland and was told her eye could be straightened by an operation. About twenty years ago, or seventeen years after the left eye turned in, her right eye began to turn. Six years ago she had la grippe, and since that time her eyes have grown rapidly worse. The last two years they have been about as we now find them. The patient has been a hard-working woman all her life, doing washing and carrying heavy baskets of clothes on her head. She is now in, and has always enjoyed, good health. Vision sufficient to enable her to get around where she is well acquainted. Tension normal. The eyes are rotated so far inward that both pupils are hidden in the inner canthi. It was impossible to rotate either eye out under cocaine anæsthesia. Not being able to get an ophthalmoscopic view, and knowing there could be no harm in an attempt toward straightening, and possibly some good result, the patient was anæsthetized with chloroform, and an effort was made to rotate the the right eye out, and sever the offending tissues. It was impossible to rotate the eye outward to any extent, but an attempt was made to sever the internal rectus. Not only was it necessary to sever the muscles that rotate the eye inward, but it amounted to a dissection of all the ocular tissues toward the nasal side. The eye was fixed as firmly as in a case of panophthalmitis, and adhesions everywhere. A slight improvement was produced which lasted a few days; the pupil was free from the inner canthus, but no improvement in vision. As you see the case now, contraction has taken place and the eye is in about the same condition as I found it. The patient has never complained of pain in the eyes and gives no history of any inflammatory condition, but we have adhesions that could not have been produced by inflammation and the patient remained unconscious of it.

Hutchinson reports seventeen very interesting cases of ophthalmoplegia externa (Royal Medical and Chirurgical Society of London, 1879). In summing up his report it seemed certain that syphilis was the cause in ten of the seventeen; that in the remaining seven a reasonable suspicion of syphilis might be entertained in several. He further says, with such a fact in mind one feels that it is almost impossible to make the negative even fairly possible. The evidence which connects this affection with syphilis is exceedingly strong, and that which

favors the belief that it can occur independently of it must be held to be open to some doubt. The cause of paralysis in this case is obscure. We can exclude some of the common causes, but syphilis should not be excluded, even if we have, as we do in this case, a negative history. As syphilis is given as the cause of nearly all these paralyses, I have given her increasing doses of potassium iodide, and will continue for a reasonable time. It would be no more than fair to suppose the lesion in this case was directly caused by la grippe.

DISCUSSION.

DR. A. R. AMOS (Des Moines, Iowa). — Dr. Fisher, in presenting his case, assumes that paralysis of the abducens is the primary cause of the position of these eyes. I do not think this assumption is necessary. It seems that we must account for it rather on the basis of contraction in the fibrous tissue of that region, and I think it would be proper to assume it as the cause of the position of the eyes as they are situated now. The slight ptosis which is present might be present with this condition at the same time. The external recti are paralyzed from long-continued stretching, and with the weakness incidental to the paralysis the eyeballs drop forward. It is a process not unlike that which takes place in chronic diseases elsewhere in fibrous connective tissue, and it appears to me that this case is one of that character.

DR. FISHER.—I have nothing particular to add regarding the possible diagnosis of paralysis of the abducens except as I find it. At first, I thought the case was one of complete ophthalmoplegia externa, in that I found slight movement upwards and downwards, and it is impossible to tell what has caused the contraction. I reported the case as I have found it. It is certainly a paralysis, whether caused by pulling the eyeballs inward, or whether it started from the opponent muscle.

[TO BE CONCLUDED.]

OPHTHALMOLOGICAL SOCIETY OF THE UNITED
KINGDOM.

H. H. SWANZY, FR.C.S.I., President, in the Chair.

THURSDAY, JUNE 9, 1898.

A Case of Retinitis Proliferans.—MR. PERCY FLEMMING read this paper. The specimen was obtained from a man aged 22 years, who died from chronic renal disease. The following appearances were seen on section: The posterior part of the retina was much thickened, folded, and detached; a thin membrane stretched across the vitreous cavity from the ora serrata to the posterior part of the retina; another membrane had a similar origin in part, but ended freely about the middle of the vitreous cavity; the space between these membranes and the retina was occupied by blood clot; there were signs of cyclitis. The chief microscopic appearances were: A thickening of the retina and disorganization of its inner layers, a definite transformation of the clot (as seen in successive sections) into connective tissue membrane with lacunar spaces, and a pulled-out condition of the retina near the ora serrata, resulting in elongation and rupture of Müller's fibers. It was possible to trace a direct continuity between the membranes and the retinal tissue. A review of previously recorded cases was given, and the suggestion made that the essential factors of the disease were: (1) Hæmorrhage, and (2) an inflammation of the sustentacular tissue of the retina allied to sclerosis of the central nervous system.

Remarks were made by MR. WRAY.

Œdema of the Conjunctiva, Due to Obstruction of the Lymph Stream.—MR. HOLMES SPICER said these cases presented themselves in two groups—the acute and chronic. In the acute cases, owing to a poison received into the conjunctival sac, supposed in one case to have come from wood pavement, the preauricular and cervical lymphatic glands became

inflamed, although the local signs of conjunctival irritation were not marked. The flow of lymph was hindered, and a condition of extreme œdema of the conjunctiva was produced, in which the conjunctiva hung out from between the closed lids as a flaccid gelatinous bag. Two cases were narrated in which the glandular enlargement was increased by the simultaneous occurrence of follicular tonsillitis. In the second chronic group, owing to a suppurative inflammation of the lymphatic glands of one side of the face and neck, great cicatrization had been produced, the lymph stream was hindered, the sub-conjunctival tissue spaces became filled with the solid constituents of the lymph, and a condition of solid œdema resembling elephantiasis in other parts remained, which was persistent in spite of treatment.

MR. BATTEN described some cases which he thought might be explained in a similar way.

MR. BASS thought the follicular tonsillitis might have been the original source of infection in the two acute cases narrated.

The Pathogenesis of Anterior Polar Cataract. — MR. TREACHER COLLINS first described a case in which a melanotic sarcoma of the anterior part of the ciliary body, coming in contact with the antero-lateral part of the lens had produced an opacity of the lens in that position, which presented precisely similar microscopical appearances to those seen in anterior polar cataracts. This, he thought, strongly supported the view that these latter resulted from contact of lens and cornea arresting the osmosis of nutritional fluids to the lens. He next demonstrated the microscopical characters of a congenital cataract where there was a large anterior polar opacity, beneath which the lens fibers had undergone such extensive degeneration that the whole lens was much flattened from before backwards. He thought the changes could be accounted for by prolonged contact of the lens and cornea in foetal life, after the anterior fibro-vascular sheath of the lens had disappeared. He then quoted several cases in which, besides an anterior polar opacity, there was a second opacity situated beneath it a little depth in the lens. In all these the cataract had been formed in early life, and several years had elapsed before the patient came under observation. He showed a drawing of the micro-

scopical appearances of a lens presenting two such opacities. There was the usual laminated mass at the anterior pole, then some normal lens fibers, and then an area where the lens fibers had broken up into irregular amorphous granules and detritus. This area corresponded fairly accurately in shape to that of the mass at the anterior pole, and he thought there could be no doubt that they were at one time in contact, having become separated by the gradual growth of new lens fibers inwards between them.

Splinters of Steel Removed From the Eye With the Electro-Magnet.—MR. SNELL related two cases: (1) From the retina with preservation of excellent sight. The piece was observed with the ophthalmoscope as fixed in the retina in the outer and lower quadrant; the fragment had passed through the cornea close to the sclero-corneal junction, and when the patient was first seen four days after the accident, the glistening of the steel was distinct, but the foreign body was partially covered with exudation. V.=fingers. The electro-magnet was inserted eight days after the accident between the inferior and internal recti, and the fragment removed. Later V.=²³/_{XXIV}.

(2) From the vitreous, the foreign body being localized by the *x*-rays. The patient was not seen for several weeks after the accident. The foreign body diagnosed as having entered upper part of cornea, passing through lens into vitreous. Dr. Mackenzie Davidson used the *x*-rays, and localized the splinter in the upper part of the vitreous; a skiagraph showed it to be needle-shaped, measuring 8 mm. in length, and placed obliquely. The electro-magnet (fifteen weeks after the accident) was introduced through a scleral incision between the inferior and internal recti, and the splinter at once removed—V.=fingers.

MR. TATHAM THOMPSON spoke of the difficulty sometimes experienced in withdrawing the foreign body through a small wound which he had overcome by approaching the body from another direction so as to get it end on. He thought one of the chief advantages in using the *x*-rays was the power of excluding foreign bodies in doubtful cases.

MR. LANG described two cases in which foreign bodies had been located by *x*-rays in the eyeball.

Large Fibroma of Upper Eyelid.—MR. SIMEON SNELL related this case. The patient, a man, aged 43 years, never remembered being without the tumor, and it had only increased in size very slowly. At the time of his being first seen it was pedunculated, the size of a filbert, and by its weight and situation interfered with the movements of the eyelid and with vision. It was attached to the left upper eyelid just external to the punctum. It was dissected off. The tumor was white and glistening in section, and under the microscope it was found to consist of fibrous tissue.

Toxic Amblyopia.—MR. ANDERSON CRITCHETT showed a case of toxic amblyopia which was attributed to poisoning by iodoform. An elderly lady suffering from an extensive cancerous ulceration of her breast had been in the habit of applying iodoform to the ulcer over a period of three years. She developed somewhat suddenly extreme amblyopia, lost the recognition of all colors except blue, for which she had a large central scotoma, and was found to have slight pallor of the outer half of each optic disc and a small granular change to the inner side of each macula lutea. Since the iodoform had been stopped (ten weeks) the return of her color vision had been very decided, she could recognize any color by indirect vision, but still had a large central scotoma. Her visual acuity was still very bad, though it had shown some improvement.

Card Specimens.—The following were the card specimens:
MR. HARTRIDGE: Phagedæna of the Eyelids.
MR. WRAY: (1) Pemphigus of the Conjunctiva; (2) Skia-gram of a Foreign Body in an Eye.
MR. TATHAM THOMPSON: Intraocular Granuloma.

BOOKS AND PAMPHLETS.

GLAUCOMA; ITS SYMPTOMS, VARIETIES, PATHOLOGY AND TREATMENT. By ALEX. W. STIRLING, M.D. With illustrations from micro-photographs. 1898. St. Louis: Jones H. Parker. Price, \$1.50.

A series of comprehensive lectures on glaucoma, which the author had delivered to the students of the New York Post-Graduate School, and which have seriatim appeared before in the *Annals of Ophthalmology*. We recommend this book to our readers as it gives a fairly good representation of most that is known about glaucoma and of the theories advanced to explain the different symptoms of this disease. The sections used for illustration leave much to wish for.

SYSTEM OF DISEASES OF THE EYE. Edited by W. F. NORRIS, A.M., M.D., and CH. A. OLIVER, A.M., M.D. Vol. III, Local Diseases, Glaucoma, Wounds and Injuries, Operations. 1898. Philadelphia: J. P. Lippincott Co.

This, the third volume of this collective work, is, like its predecessors, of a high excellence. While not wanting to detract from any of the other articles, we want particularly to call attention to the one on "Eye Operations," by our foremost living eye surgeon, Dr. H. Knapp. Many and excellent illustrations accompany the different articles and enhance their value.

ALT.

PAMPHLETS RECEIVED.

"Neurotic Eczema," by L. D. Bulkley, M.D.

"Abdominal and Pelvic Surgery," Wm. H. Wathen, M.D.

"The Technique of the Mastoid Operation," by E. B. Dench, M.D.

"Three Years of Serum-Therapy in Tuberculosis," by J. R. Lemen, M.D.

"The Pharmacology and Therapeutics of Kryofine," by G. F. Butler, M.D.

"A Clinical Study of Kryofine," by S. V. Haas, M.D., and J. B. Morrison, M.D.

"Report of Five Cases of Abscess in the Brain in Infants, etc.," by L. E. Holt, M.D.

"Inequality of the Pupils Observed at an Altitude of 10,250 Feet," by E. T. Boyd, M.D.

"Kryofine—Observations Made at the Clinic of Professor Eichhorst at Zürich," by Eugenia Back.

"A Case of Bilateral Syphilitic Ulceration of the Palpebral Conjunctiva," by C. A. Veasey, M.D.

"Partial Report of Eight Hundred Cases of Labor," by H. S. Crossen, M.D.

"Vaginal Hysterectomy for Prolapsus," by H. S. Crossen, M.D.

"A Rapid Treatment of Chancroid and Ulcerative Syphilitic Lesions," by A. H. Ohmann-Dumesnil, M.D.